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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/065,354	10/08/2002	Chin-Lin Chang	9155-US-PA	3999

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JIANQ CHYUN INTELLECTUAL PROPERTY OFFICE
7 FLOOR-1, NO. 100
ROOSEVELT ROAD, SECTION 2
TAIPEI, 100
TAIWAN

EXAMINER	
LEE, CHEUKFAN	
ART UNIT	**PAPER NUMBER**
2627	

DATE MAILED: 02/24/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/065,354	CHANG, CHIN-LIN	
	Examiner	Art Unit	
	Cheukfan Lee	2627	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *08 October 2002*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-12* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-12* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *08 October 2002* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

1. Claims 1-12 are pending. Claims 1, 6, 9, and 12 are independent.

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3. Claims 1, 3, 9, and 11 are rejected under 35 U.S.C. 102(e) as being anticipated by Ichikawa et al. (U.S. Patent No. 6,919,974).

Regarding claim 1, Ichikawa et al. discloses a document scanner having a light source with a self-collection capability (Figs. 9 and 10). The scanner comprises an optical scanning chassis (64) having a light source (70 or 50) (Figs. 9, 10 and 13), wherein a tube (21) of the light source (57 or 70) at a tube wall is implemented with a total reflective material (24), wherein the total reflective material has an opening (26) for emitting a light beam onto a document (63), where the light beam is a collected light from a scattered light, and a transmission assembly (75 in Fig. 13) for supplying a driving power to the optical scanning chassis (64) to accomplish the scanning operation step by step (col. 6, lines 8-57, which refer to the explanation of light source (50) in Figs. 1 and 2).

Regarding claim 3, the total reflective material (24) is coated on an inner wall of the tube (21) of the light source (70 or 50) (Figs. 9 and 10).

Regarding claim 9, as discussed for claim 1 above, the light source (70 or 50) of the document scanner of Ichikawa et al. (Figs. 9, 10 and 13) comprises a tube (21) having a tube wall having a total reflective material (24) implemented on the tube wall (Figs. 9 and 10), the total reflectively material producing the self-collection capability and having an opening (26) for emitting out a light beam to a document (63) (col. 6, lines 8-57, which refer to the explanation of light source (50) in Figs. 1 and 2). Ichikawa et al. further discloses a plurality of electrodes (23a and 23b) of the light source (70 or 50) (col. 6, lines 17-19).

Regarding claim 11, the total reflective material (24) is coated on an interior side of the tube tall (Fig. 10, col. 6, lines 8-22, which refers to Fig. 2, col. 4).

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

5. Claims 2 and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ichikawa et al. (U.S. Patent No. 6,919,974) in view of Kramer (U.S. Patent No. 4,371,897).

Regarding claims 2 and 10, Ichikawa et al. discussed for claims 1 and 9 differs from the claimed invention in that the total reflective material (24) is applied not to an outer wall but to the interior wall of the tube (21) of the light source (70 or 50) (Figs. 9 and 10). However, a light tube (light collector 132) having a total reflective material (138) coated on a large portion of the tube (132), leaving an opening of the tube not coated, to increase the efficiency of the tube (132) is taught by Kramer (Fig. 6b, col. 9, lines 55-67). It would have been obvious to one of ordinary skill in the art at the time the invention was made to apply a total reflective material on the outer wall of the tube (21) of Ichikawa et al., as taught by Kramer, to increase the efficiency of the light tube (21).

6. Claims 4 and 5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ichikawa et al. (U.S. Patent No. 6,919,974) in view of Nagano (U.S. Patent No. 4,731,661).

Regarding claim 4, Ichikawa et al. discussed for claim 1 above differs from the claimed invention in that Ichikawa et al. does not disclose a first auxiliary light source and a second auxiliary light source, both having the self-collection capability and both being arranged at both sides of the light source (70 or 50 in Figs. 9, 10 and 13) separately.

However, arrange a first auxiliary light source (3) and a second auxiliary light source (5) at both sides of a light source (4) separately is taught by Nagano (Figs. 1 and 2, col. 3, lines 16-43). The light sources (3 and 5) are considered auxiliary light sources in this Office Action because they and the light source (4) together make the document scanner of Nagano a color document scanner.

Ichikawa et al. further discloses that the document scanner (Figs. 13, 18 and 19) is a color scanner having a light source and a plurality of color filters associated with corresponding three line sensors (67B, 67G and 67R) of the line sensor (67) to produce blue, green and red color signals of the document image (col. 9, line 1 – col. 10, line 25). One of ordinary skill in the art would have realized that this type of scanner structure only one of two main types of color scanner structures, that another type of structure is the type disclosed by Nagano, which has three color light sources (3, 4, and 5) for sequentially emitting blue, green and red lights, respectively, and a single line color sensor for sensing all blue, green and red colors, sequentially. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to employ in the scanner of Ichikawa et al. three light sources (3 and 5) having self-collecting capability and have them arranged parallel to one another as taught by Nagano, in order to reduce the number of line sensors.

Regarding claim 5, Ichikawa et al. further discloses a controlling circuitry (30i to 54), used for adjusting a light output intensity of the light source (70 or 50 in Figs. 9 and 13) (Fig. 9). Based on the discussion and the reason of obviousness given for claim 4

above, using the controlling circuitry to adjust the light output intensity of not only one but all three light sources discussed for claim 4 would have been obvious to one of ordinary skill in the art to produce the desired light output intensities.

7. Claims 6 and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ichikawa et al. (U.S. Patent No. 6,919,974) in view of Kawai et al. (U.S. Patent No. 6,360,030).

Regarding claim 6, Ichikawa et al. discloses a document scanner having a light source with a self-collection capability (Figs. 9, 10 and 13). The scanner comprises an optical scanning chassis (64), which includes a light source (70 or 50) having a tube (21) with a tube wall for collecting scatter lights into a light beam and then emits the light beam out to a document (63), and a transmission assembly (75 in Fig. 13) for supplying a driving power to the optical scanning chassis (64) to accomplish the scanning operation step by step (col. 7, line 48 – col. 8, line 25, which refer to the light source 50 of Fig. 2 explained at cols. 1 and 2).

Ichikawa et al. differs from the claimed invention in that the tube wall does not include a converging lens wall. However, a light collecting tube having a converging lens wall (7) to collect scattered lights into a light beam and then to emit the light beam out to a document being scanned is taught by Kawai et al. (Figs. 9 and 10, col. 7, line 48 – col. 8, line 25). It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the tube wall of the tube (21) of Ichikawa et al. such that the tube wall includes a converging lens wall at the opening (26) of the

reflective material (24), as taught by Kawai et al., to further increase the efficiency of the light tube.

Regarding claim 12, the claim claims a light source comprising "a tube having a tube wall formed as a converging lens for collecting scattered lights" and "a plurality of electrodes, disposed at both sides of the tube". For "a tube having a tube wall formed as a converging lens ...", see discussion for claim 6 with respect to the converging lens of Kawai and the reason of obviousness given. For "a plurality of electrodes", Ichikawa et al. further discloses a plurality of electrodes (23a and 23b) of the light source (70 or 50) (col. 6, lines 17-19).

8. Claims 7 and 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ichikawa et al. (U.S. Patent No. 6,919,974) in view of Kawai et al. (U.S. Patent No. 6,360,030) as applied to claim 6 above, and further in view of Nagano (U.S. Patent No. 4,731,661).

Regarding claim 7, the scanner of Ichikawa et al. in view of Kawai et al. discussed for claim 6 above differs from the claimed invention in that the scanner does not comprise a first auxiliary light source and a second auxiliary light source, both having the self-collection capability and both being arranged at both sides of the light source (70 or 50 in Figs. 9, 10 and 13) separately.

However, arrange a first auxiliary light source (3) and a second auxiliary light source (5) at both sides of a light source (4) separately is taught by Nagano (Figs. 1 and

2, col. 3, lines 16-43). The light sources (3 and 5) are considered auxiliary light sources in this Office Action because they and the light source (4) together make the document scanner of Nagano a color document scanner.

Ichikawa et al. further discloses that the document scanner (Figs. 13, 18 and 19) is a color scanner having a light source and a plurality of color filters associated with corresponding three line sensors (67B, 67G and 67R) of the line sensor (67) to produce blue, green and red color signals of the document image (col. 9, line 1 – col. 10, line 25). One of ordinary skill in the art would have realized that this type of scanner structure only one of two main types of color scanner structures, that another type of structure is the type disclosed by Nagano, which has three color light sources (3, 4, and 5) for sequentially emitting blue, green and red lights, respectively, and a single line color sensor for sensing all blue, green and red colors, sequentially. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to employ in the scanner of Ichikawa et al. in view of Kawai et al. three light sources (3 and 5) having self-collecting capability and have them arranged parallel to one another as taught by Nagano, in order to reduce the number of line sensors.

Regarding claim 8, Ichikawa et al. further discloses a controlling circuitry (30i to 54), used for adjusting a light output intensity of the light source (70 or 50 in Figs. 9 and 13) (Fig. 9). Based on the discussion and the reason of obviousness given for claim 7 above, using the controlling circuitry to adjust the light output intensity of not only one

but all three light sources of the obvious scanner discussed for claim 7 would have been obvious to one of ordinary skill in the art to produce the desired light output intensities.

9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Ueda et al. (U.S. Patent No. 5,416,608), "Image reading apparatus", Figs. 23 and 24

Leman (U.S. Patent No. 4,576,462), "Illumination system for an electro-photographic printing device", Figs. 1 and 2, col. 2, lines 53-56, phosphor coating on lamp 16

Fang (U.S. Patent No. 6,646,769), "Light source mechanism for an imaging apparatus"

Hamai (U.S. Patent No. 4,627,824), "Method of and apparatus for manufacturing small-size gas-filled lamps", Figs. 2-6, lens 16

Lin (U.s. Patent No. 6,464,366), "Illumination device providing longitudinal limitation"

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Cheukfan Lee whose telephone number is (571) 272-7407. The examiner can normally be reached on 9:30 a.m. to 6:00 p.m., Mon-Fri.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Edward L. Coles can be reached on (571) 272-7402. The fax phone

number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Cheukfan Lee
February 17, 2006

Cheukfan Lee